

TITLE

## METHOD AND APPARATUS FOR MAKING BRISTLE SUBASSEMBLIES

ABSTRACT

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An apparatus for continuously making a bristle subassembly comprising:

(a) a mandrel having at least three sides and having a moving cable support on each corner running a substantial length of the mandrel on the exterior corner of the mandrel;

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(b) a wrapping means for continuously wrapping a polymeric filament around the axis of the mandrel to form a wrap of polymeric filaments; where the wrap of polymeric filaments is being supported and moved along a substantial length of the mandrel by the moving cable support;

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(c) a means for feeding at least one base string outside of the wrap of polymeric filaments to a selected portion of the mandrel as required to form the subassembly while the wrap of polymeric filaments is being moved at least a portion of the length of the mandrel by the cable support of the mandrel;

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(d) a means for continuously bonding the base string and polymeric filaments of the wrap together by simultaneously pressing the base string in contact with the polymeric filaments of the wrap and applying energy to the base string and the polymeric filaments of the wrap; and

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(e) a cutting means for cutting the wrap of polymeric filaments at a point downstream of where the polymeric filaments of the wrap are bonded with the base string to form at least one bristle subassembly having at least one row of filament segments connected to at least one base string.